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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/668,303	09/24/2003	Hiroshi Hasegawa	116808	2398
25944	7590	11/01/2005	EXAMINER	
OLIFF & BERRIDGE, PLC P.O. BOX 19928 ALEXANDRIA, VA 22320			YANG, ANDREW GUS	
			ART UNIT	PAPER NUMBER
			2671	

DATE MAILED: 11/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.		Applicant(s)	
	10/668,303		HASEGAWA, HIROSHI	
	Examiner		Art Unit	
	Andrew Yang		2671	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

By

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 4-9, and 12-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Kohda (U.S. Patent No. 6,020,890).

With respect to claims 1 and 9, Kohda discloses a plurality of display screens on which an image is displayed by projecting a three-dimensional computer graphics model on a two-dimensional projection plane (column 3, lines 26-29). Kohda also discloses folding three display screens to face inside (column 6, lines 13-15), which defines inner surfaces for displaying images, and the option of arranging and connecting six square display screens to form a die shape (column 6, lines 44-46), a kind of polyhedron. In addition, Kohda discloses an image generating unit 4 in Fig. 1, generating two-dimensional images for each projection plane, based on a viewpoint and direction specified by the viewpoint description unit 2 in Fig. 1 (column 4, lines 12-13 and lines 18-19). It is deemed inherent that a calculation must be performed in order to display an image on each projection plane.

With respect to claims 4-5 and 12-13, Kohda discloses the apparatus for displaying images as in claim 1, in which six square display screens can be connected

and arranged in a die shape (column 6, lines 44-46), forming a polyhedron with orthogonal, vertical, and horizontal display surfaces.

With respect to claims 6 and 14, Kohda discloses the apparatus for displaying images as in claim 1, including a plurality of display screens on which an image is displayed by projecting a three-dimensional computer graphics model on a two-dimensional projection plane (column 3, lines 26-29) and a projection plane description unit 3 in Fig. 1 that issues an instruction to display an image (column 5, lines 9-10)

With respect to claims 7 and 15, Kohda discloses the apparatus for displaying images as in claim 1, including a plurality of display screens on which an image is displayed by projecting a three-dimensional computer graphics model on a two-dimensional projection plane (column 3, lines 26-29) and an image generating unit 4 in Fig. 1 which generates a two-dimensional image of the three-dimensional computer model (column 3, lines 65-67).

With respect to claims 8 and 16, Kohda discloses the apparatus for displaying images as in claim 1, in which six square display screens can be connected and arranged in a die shape (column 6, lines 44-46), forming a polyhedron in a box shape. Kohda also discloses folding three display screens to face inside (column 6, lines 13-15), which defines inner surfaces for displaying images. It is deemed inherent to include an inner viewing window and set the viewpoint in this window in order to view the inside of the box.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2-3 and 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kohda (U.S. Patent No. 6,020,890) in view of Tulman (U.S. Patent No. 6,710,775).

With respect to claims 2 and 10, Kohda discloses the apparatus for displaying images as in claim 1, in which a two-dimensional image is displayed on display screen unit 6b in Fig. 11 and display screen unit 6a in Fig. 11 (column 8, lines 44-51), which displays the image on two adjacent display surfaces. It is obvious to one skilled in the art that the displayed image can be of a real image, as real images are commonly used and well known in the art.

With respect to claims 3 and 11, Kohda discloses the apparatus for displaying images as in claim 1, in which a two-dimensional image is obtained by obliquely viewing the front of a three-dimensional computer graphics model 10 in Fig. 11 and displaying the two-dimensional image on display unit 6b in Fig. 11 and display screen unit 6a in Fig. 11 (column 8, lines 44-51), which displays the divided three-dimensional computer graphics model image on two adjacent display surfaces. However, Kohda does not expressly disclose the use of a perspective system or a vanishing point for each surface.

Tulman, who also deals with displaying images on a two-dimensional surface, discloses a perspective system 204 in Fig. 6 including a vanishing point 210 in Fig. 6 for the object rendered on the screen (column 3, line 56 and column 4, line 3).

Kohda and Tulman are analogous art in that they are in the same field of endeavor, namely two-dimensional image display.

At the time of the invention it would have been obvious to one skilled in the art to use the perspective system to display the two-dimensional image as taught by Tulman in the Kohda reference for the benefit of creating the impression of image depth to render the image as realistic as possible.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following patent is cited to further show the state of the art with multiple image display devices:

U.S. Patent No. 5,963,247 to Banitt for a three-dimensional display with one or more surfaces in different configurations.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew Yang whose telephone number is (571) 272-5514. The examiner can normally be reached on 9-5:30 M-F.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ulka Chauhan can be reached on (571) 272-7782. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2671

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AGY

10/20/05


ULKA J. CHAUHAN
PRIMARY EXAMINER